

# Standard Aircraft Characteristics

NAVY MODEL

T-2B

AIRCRAFT

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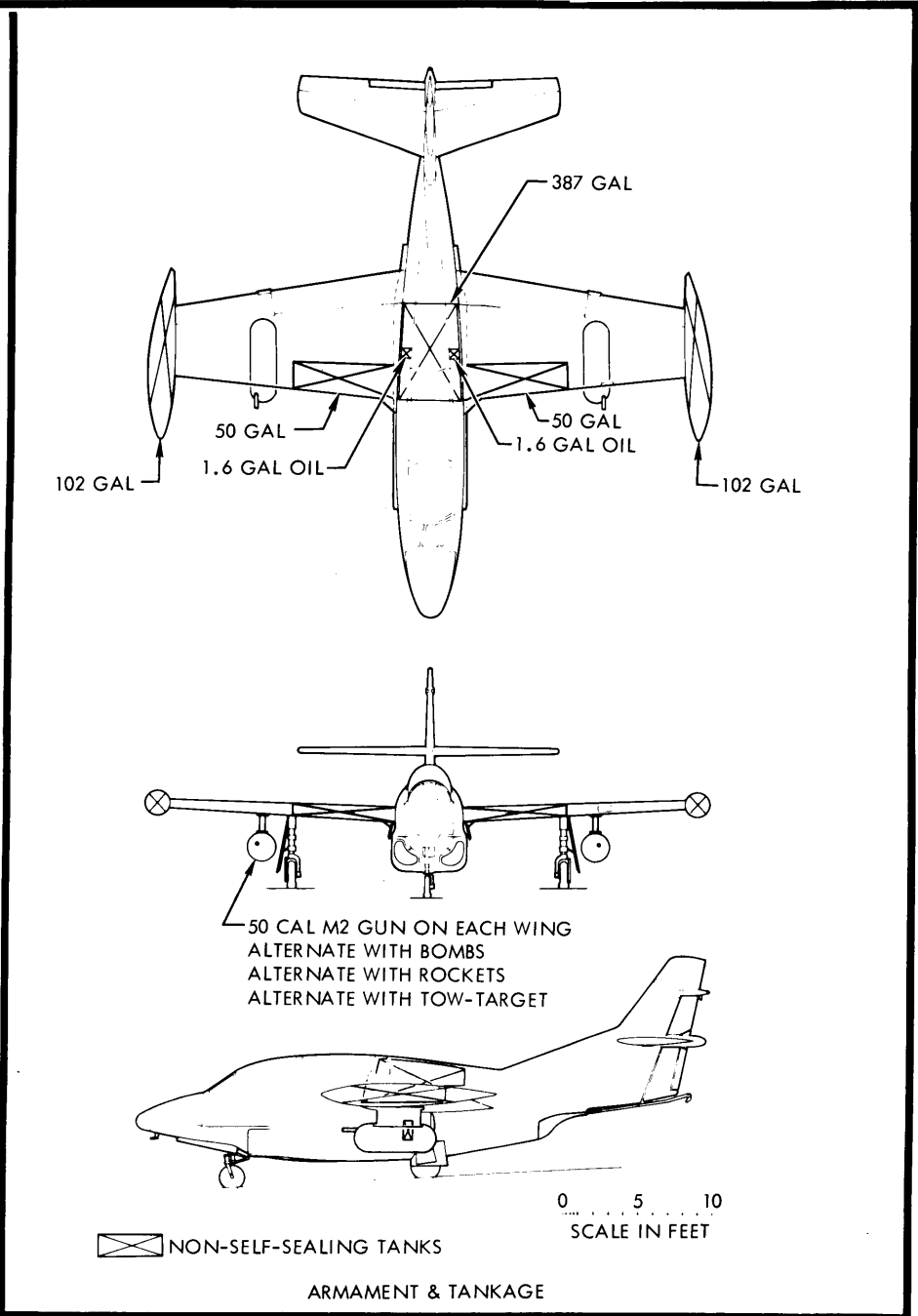
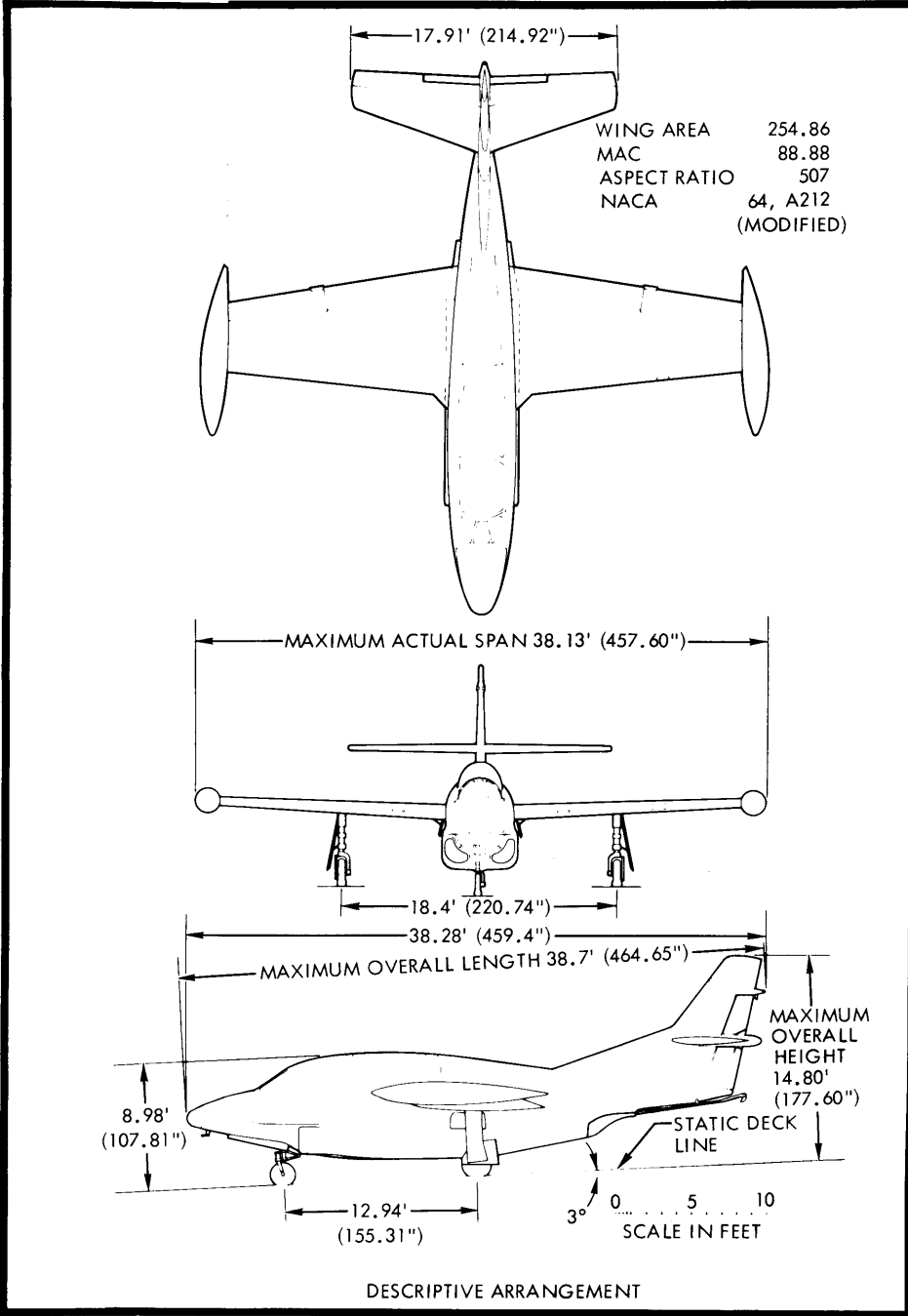
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JANUARY 1970



**STANDARD AIRCRAFT CHARACTERISTICS**  
**T-2B**  
**TRAINER**

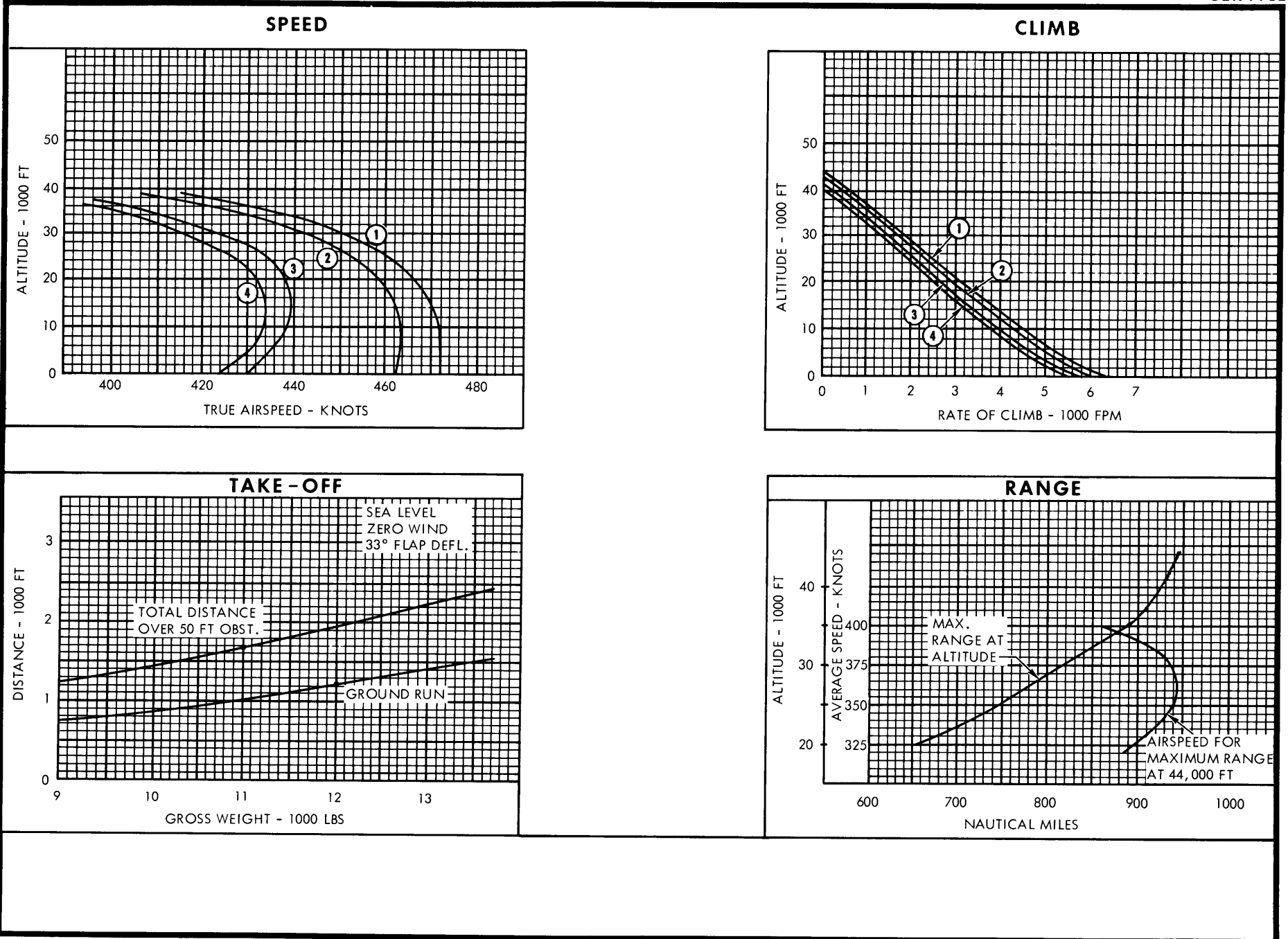
**NORTH AMERICAN AVIATION, INC.**



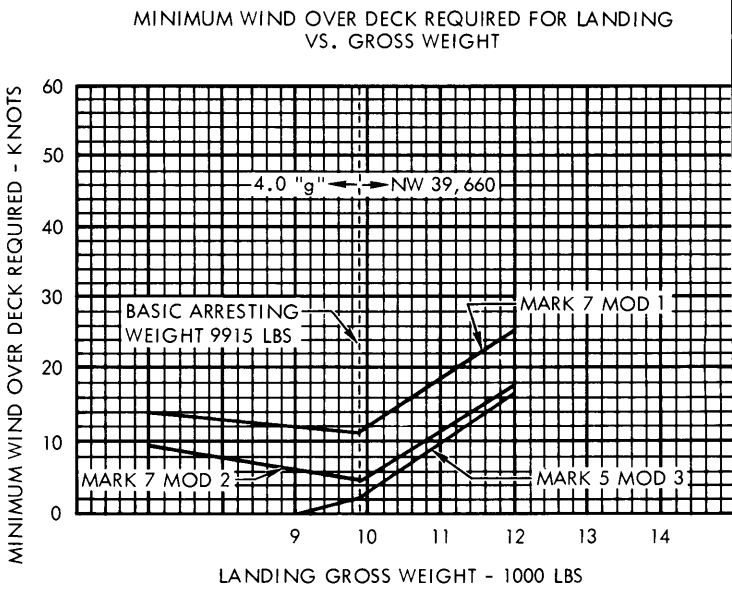
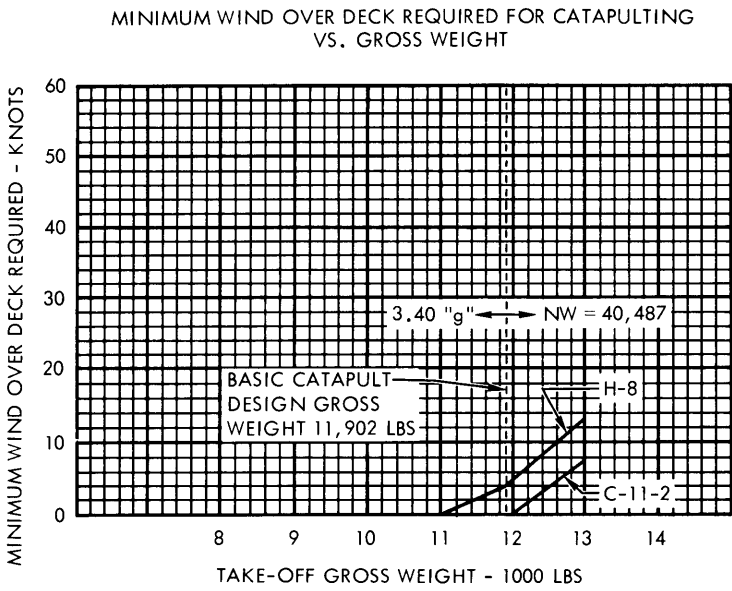
T-2B

POWER PLANT					MISSION AND DESCRIPTION		WEIGHTS		
NO. & MODEL		(2) J60-P-6			<p>This airplane is a follow-on production configuration of the Model YT-2B (T2J-2) Prototype Trainer which was a development of a dual engine configuration of the T-2A (T2J-1) Airplane. The primary purpose of this airplane is to provide performance and versatility so as to logically and systematically present the complexities of modern service aircraft.</p> <p>The T-2B Airplane incorporates in its design an NACA low-drag, laminar-flow airfoil section, a power-operated, clam-shell type canopy, speed brakes, a catapult hook and an arresting gear. The wing incorporates single-slotted flaps. Flight controls, excluding the mechanical rudder system, are power operated (elevator power-boosted and aileron irreversible system). A large baggage compartment is located in the nose section.</p> <p>A low level escape system is also featured in the T-2B Airplane which provides safe ejection throughout the flight envelope down to zero altitude and a speed of 75 knots.</p> <p>Flaps and landing gear may be extended up to a speed of 165 knots. The maximum permissible dive speed above 7500 feet is Mach number 0.85. The maximum structural design speed is 485 knots.</p> <p>Mfg. Model: NA-288, 291, and 294</p> <p>First Flight Date: 21 May 1965</p>		LOADING	LBS	LF
MFR.		Pratt & Whitney Aircraft					Empty (S)	8220	
ENG. SPEC. NO.		N-2444					Design	9915	6.5
TYPE		Axial Flow					Basic	13,284	4.85
WEIGHT (DRY)		500.3 lbs					Combat	not applicable	
LENGTH (APPROX.)		70.45 in.					Max. Take-Off	14,048	4.59
DIAMETER (APPROX.)		22.00 in.					Max. Landing	13,661	(field)
TAIL PIPE NOZZLE (TYPE)		Fixed Convergent					Max. Landing	11,958	(carrier)
RATING							(S) SD-524-2-1		
	LBS THRUST	MAX RPM	ALT	MIN					
MIL	3000	16,700	SL	30					
NOR.	2570	15,750	SL	-					
MAX (S)	2905	-	SL	30					
T.O.	2905	-	SL	30					
(S) Installed rating, limited by full power lever position.									
ORDNANCE							FUEL AND OIL		
NO.	CAL.	ROUNDS	LOCATION				FUEL		
2	.50	100 each	Wings				LOCATION	TANKS	GAL.
Removable gun package, P/N 200-89045, one gun package location under each wing (W.S. 134.5) Gun camera, (1) type KB-9A location on gun sight.							Fuselage	1	387
							Wing Leading Edge	2	100
							Tip-Tanks	2	204
							Grade	JP-4 or JP-5 MIL-J-5624D	
							OIL		
							Engine Tank	2	3.2
							Specification	MIL-L-23699	
BOMBS							ELECTRONICS		
External, one location under each wing (W.S. 134.5)							IFF/SIF Identification AN/APX-64		
NO.	TYPE						UHF Command AN/ARC-52X		
2	MK 86 practice bombs						TACAN Equipment AN/ARN-52(V)		
or 2	MK 15 practice bombs						Receiving Set AN/ARR-40		
or 2	A/A37B-3 practice racks and 12 MK76 Mod 4 or 5 practice bombs						Direction Finder AN/ARA-25A		
or 2	A/A 37B-3 practice racks and 12 MK 106-3 practice bombs						Interphone C-2379/AIC		
							Provisions for:		
							Fire Control System AN/AWG-6 (MK6 MOD 4 + AN/APG-30A)		
ROCKETS									
External, one location under each wing (W.S. 134.5)									
NO.	SIZE	TYPE							
2	2.25 in.	Practice Rocket							
14	2.75 in.	Mighty Mouse Rocket							
2	2.75 in.	Single-Mounted							
Fire control system MK-6 MOD 4 including MK-8 MOD 9 gunsight. Guns can be carried in lieu of, but not in combination with, bombs or rockets. Provisions for aerial tow target.									
DIMENSIONS									
Wing Area					254.86 Sq. Ft.				
Span					38.13 Ft.				
Length					38.28 Ft.				
Height					14.80 Ft.				
Tread					18.40 Ft.				

PERFORMANCE SUMMARY						
TAKE-OFF LOADING CONDITION			BASIC TRAINER (Tiptanks)	BASIC TRAINER & ROCKETS	BASIC TRAINER & GUN PACKAGES	BASIC TRAINER & BOMBS
TAKE-OFF WEIGHT	lb.		13,284	13,771	13,771	14,048
Fuel Internal/External	lb.		3166/1326	3166/1326	3166/1326	3166/1326
Payload	lb.		0	252	60	300
Wing loading	lb./sq. ft.		52.0	54.0	54.0	55.2
Stall speed - power-off	kn.		99.5	101.5	101.5	102.5
Take-off run at S. L. - calm	(A)	ft.	1460	1550	1550	1630
Take-off run at S. L. 25 kn. wing	(A)	ft.	920	1000	1000	1040
Take-off to clear 50 ft. - clam	(A)	ft.	2300	2450	2450	2540
Max. speed/altitude	(B)	kn./ft.	472/4000	464/6000	439/15000	434/15000
Rate of climb at S. L.	(B)	fpm.	6100	5800	5550	5300
Time: S. L. to 20,000 ft.	(B) (C)	min.	4.5	4.8	5.2	5.4
Time: S. L. to 30,000 ft.	(B) (C)	min.	8.1	8.7	10.2	10.8
Service ceiling (100 fpm)	(B)	ft.	42,600	41,400	39,950	39,250
Combat range	(D)	n.mi.	966 (I)	903 (I)	758 (I)	720 (I)
Average cruising speed		kn.	360	356	352	345
Cruising altitude (avg)		ft.	44,000	43,000	41,500	40,600
Combat radius		n.mi.	498 (II)	337 (III)	235 (IV)	165 (V)
Average curising speed out/inbound		kn./kn.	360/360	356/356	352/352	238/263
Mission time		hr.	3.21	2.53	2.19	1.90
COMBAT LOADING CONDITION						
COMBAT WEIGHT	(E)	lb.	11,487	11,722	11,914	11,951
Engine power			max. power	max. power	max. power	max. power
Fuel		lb.	2695	2695	2695	2695
Combat speed/combat altitude	(B)	kn./ft.	462/25000	465/5000	437/25000	432/5000
Rate of climb/combat altitude	(B)	fpm/ft.	3200/25000	5920/5000	2350/25000	5280/5000
Combat ceiling (500 fpm)	(B)	ft.	42,800	41,900	40,100	39,750
Rate of climb at S. L.	(B)	fpm.	7150	6900	6450	6380
Max. speed at S. L.	(B)	kn.	472	464	432	427
Max. speed/altitude	(B)	kn./ft.	472/S. L.	465/8000	442/15000	436/15000
LANDING WEIGHT		lb.	9660	10091	10123	10428
Fuel		lb.	788	812	854	872
Stall speed-power-off/with approach power		kn/kn.	85/85	86.5/86.5	87/87	88/88
Landing Distance-grd. roll/over 50 foot obst.		ft/ft.	1520/2060	1680/2220	1700/2240	1810/2360
NOTES:			(A) Take-off Power			(D) Ranges are Based on Flight Test Fuel Consumption Data
			(B) Maximum Power			(E) Represents Combat Training Missions (Less Pay Load & 40% Fuel)
			(C) Allows for Weight Reduction During Ground Operations and Climb			
External Fuel is Carried in Fixed Tip Tanks						



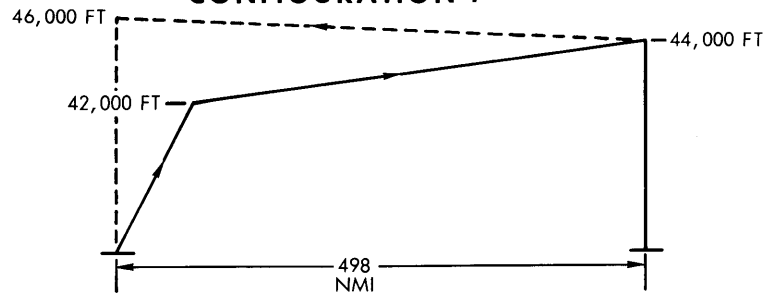
CARRIER SUITABILITY

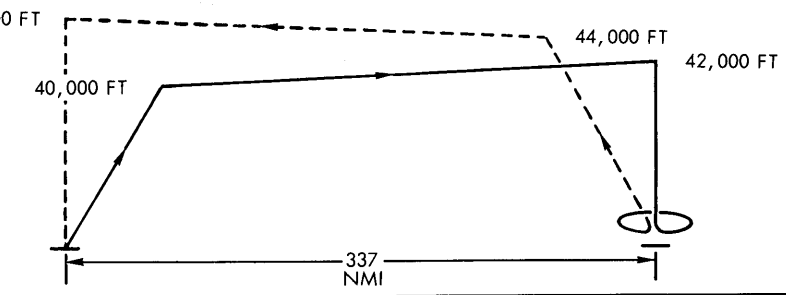


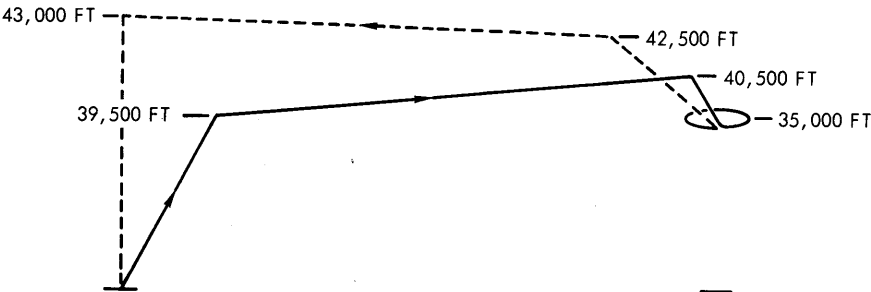
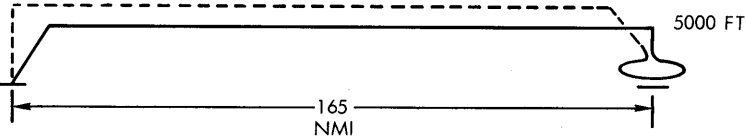
NOTES:

1. No Wind Over Deck is Required for C-7, C-11 and C-13 Catapults.

1. Approach Speeds are Based on Approach Speeds Recommended from Ship Board Carrier Suitability Trails for T-2A (T2J-1) Airplane.

RECONNAISSANCE MISSION CONFIGURATION 1			
			
OPERATION	Fuel Used lbs	Distance (nmi)	Time (hrs.)
Warm-up and Take-off Accelerate to Climb Speed (5 min Normal Rated Thrust at S.L.)	370	0	0.083
Climb to Cruise Ceiling at Maximum Thrust	800	109	0.325
Cruise out and Back at cruise Ceiling at speed for Maximum Range	2534	887	2.465
Reserve (20 min at Speed for Maximum Endurance at S.L. + 5% Initial Fuel Load)	788	0	0.333
Total	4492	996	3.206

GROUND SUPPORT MISSION CONFIGURATION 2			
			
OPERATION	Fuel Used (lbs.)	Distance (nmi)	Time (hrs.)
Warm-up and Take-off Accelerate to Climb Speed (5 min Normal Rated Thrust at S.L.)	370	0	0.083
Climb to Cruise Ceiling at Maximum Thrust	840	108	0.333
Cruise out at cruise ceiling at speed for Maximum Range	753	229	0.644
Descend to S.L. Loiter for 10 min at Speed for Maximum Endurance. (Fire Rockets)	327	0	0.167
Climb to Cruise Ceiling at Maximum Thrust	710	99	0.300
Cruise in at Cruise Ceiling at speed for Maximum Range	680	238	0.668
Reserve (20 min at speed for Maximum Endurance at S.L. + 5% Initial Fuel Load)	812	0	0.333
Total	4492	674	2.528

GENERAL PURPOSE AND ESCORT MISSION CONFIGURATION 3				LOW ALTITUDE ATTACK MISSION CONFIGURATION 4			
							
OPERATION	Fuel Used (lbs.)	Distance (nmi)	Time (hrs.)	OPERATION	Fuel Used (lbs.)	Distance (nmi)	Time (hrs.)
Warm-up and Take-off Accelerate to Climb Speed (5 min Normal Rated Thrust at S.L.)	370	0	0.083	Warm-up and Take-off Accelerate to Climb Speed (5 min. Normal Rated Thrust at S.L.)	370	0	0.083
Climb to Cruise Ceiling at Maximum Thrust	890	102	0.347	Climb to 5000 feet at Maximum Thrust	85	4	0.017
Cruise out at Cruise Ceiling at speed for Maximum Range	511	133	0.378	Cruise out at 5000 feet at speed for Maximum Range	1463	161	0.676
Descended to 35,000 feet for 20 min combat (max fuel flow) expend ammo	631	0	0.333	Descended to S.L. Loiter for 10 min at speed for maximum endurance. Drop Bombs	344	0	0.167
Climb to Cruise Ceiling at Maximum Thrust	760	95	0.316	Climb to 5000 feet at Maximum Thrust	70	4	0.013
Cruise back at Cruise Ceiling at speed for Maximum Range	476	140	0.398	Cruise back at 5000 at speed for Maximum Range	1288	161	0.613
Reserve (20 min at Speed for Maximum Endurance at S.L. + 5% Initial Fuel Load)	854	0	0.333	Reserve (20 min at speed for Maximum Endurance at S.L. + 5% Initial Fuel Load)	872	0	0.333
Total	4492	470	2.188	Total	4492	330	1.902